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Abstract: This study evaluated the psychometric properties of the German adaptation of the Traumatic Experiences Checklist (TEC), a comprehensive questionnaire for the assessment of adverse and potentially traumatic experiences in childhood and adult life. Participants were recruited from in- and outpatient units of 7 psychiatric services in Switzerland and Germany and from private practitioners of psychiatry and psychotherapy (N = 287). Participants were assessed by self-rating scales, diagnostic checklists, and diagnostic interviews. A subgroup of 67 participants recompleted the TEC 3 to 5 weeks following the first assessment. High correlations between TEC scores and Childhood Trauma Questionnaire scores confirmed criterion validity of the TEC. Construct validity was confirmed by the association of TEC scores with symptom scores of posttraumatic stress, dissociation, anxiety, and depression. The TEC showed high reliability (Cronbach's $\alpha = 0.85$ to 0.94 for total scores, test-retest correlation = 0.94 to 0.95 for total scores). The psychometric properties of the German adaptation of the TEC are excellent. The TEC is useful to assess adverse and potentially traumatic experiences in clinical work and research. (PsycINFO Database Record (c) 2011 APA, all rights reserved)

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Psychometric characteristics of the German adaptation of the Traumatic Experiences

Checklist (TEC)

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Abstract

This study evaluated the psychometric properties of the German adaptation of the Traumatic Experiences Checklist (TEC), a comprehensive questionnaire for the assessment of adverse and potentially traumatic experiences in childhood and adult life. Subjects were recruited from in- and outpatient units of 7 psychiatric services in Switzerland and Germany and from private practitioners of psychiatry and psychotherapy (N = 287). Subjects were assessed by self rating scales, diagnostic checklists and diagnostic interviews. A subgroup of 67 subjects recompleted the TEC three to five weeks following the first assessment. High correlations between TEC scores and Childhood Trauma Questionnaire (CTQ) scores confirmed criterion validity of the TEC. Construct validity was confirmed by the association of TEC scores with symptom scores of post-traumatic stress, dissociation, anxiety and depression. The TEC showed high reliability (Cronbach's alpha for total scores = 0.85 to 0.94, test-retest correlation for total scores = 0.94 to 0.95). The psychometric properties of the German adaptation of the TEC are excellent. The TEC is useful to assess adverse and potentially traumatic experiences in clinical work and research.

Keywords: Childhood Trauma; Self-Assessment; Psychometrics; Validation.

Introduction

Traumatic experiences in childhood are related to poor mental and physical health in adults (McCauley, et al., 1997; Nemeroff, 2004). Moreover, there is evidence that not only childhood trauma such as physical and sexual abuse but also child maltreatment without physical threat such as emotional abuse (Teicher, Samson, Polcari, & McGreenery, 2006) and adverse life events such as parental death or divorce (Green, et al., 2010) are associated with mental disease. The possible consequences involve a large range of mental difficulties, including interpersonal problems, delinquency, physical aggression, substance abuse, depression, personality disorders, psychosis, post-traumatic stress symptoms, dissociation, and suicide attempts (Chapman, et al., 2004; Dube, et al., 2001; Dubner & Motta, 1999; Johnson, et al., 2001; Read, van Os, Morrison, & Ross, 2005; Teicher et al., 2006; Turner & Lloyd, 2003). The assessment of childhood trauma and adversities in clinical settings as well as in research should carefully explore the context of the events, because consequences can be strongly influenced by the characteristics which are described in the following.

Several studies showed that the more different types of childhood trauma and adversities someone experiences the more severe the possible consequences (Briere, Kaltman, & Green, 2008; Teicher, et al., 2006), suggesting that psychopathological consequences of childhood trauma and adversities might rise in a dose-response manner. Other data suggest that the developmental stage of a child exposed to a traumatic or adverse event is relevant for its impact. For example, McLean and Gallop (McLean & Gallop, 2003) showed that early onset of sexual child abuse has more serious consequences than sexual abuse later in life. Another characteristic that seems to influence the consequences of traumatic or adverse experiences is the social setting in which they occur. High levels of dissociative symptoms, for example, were found to

1 be associated with intrafamilial but not with extrafamilial abuse (Plattner, et al., 2003). On the
2 other hand, subjectively perceived availability of social support after traumatic events is a
3 situational characteristic that can alleviate the hazard of childhood trauma (Kaniasty & Norris,
4 1992; Schumm, Briggs-Phillips, & Hobfoll, 2006). The victim's subjective perception of the
5 impact of an event is also important as it has been shown to be associated with symptom
6 severity (Dorahy, et al., 2009). Furthermore, the assessment of trauma and adverse life events
7 should also pay attention to information about events in adult life. Since interview-based
8 assessments are very time-consuming, using self-report questionnaires for screening is an
9 economical alternative. Although several self-report measures for childhood adversities exist,
10 the Childhood Trauma Questionnaire (CTQ) (Bernstein & Fink, 1998; Gast, Rodewald, Nickel,
11 & Emrich, 2001) is currently the only internationally used instrument that is available in a
12 validated German version. A shortcoming of the CTQ is that it only measures the frequency of
13 events without giving further information about contextual factors. The Traumatic Experiences
14 Checklist (TEC) (Nijenhuis, Van der Hart, & Kruger, 2002) on the other hand is a self-rating
15 scale that was developed to assess a variety of potentially traumatic and adverse events in a
16 more comprehensive way. The scale collects information about the age of occurrence of the
17 event, duration of the exposure, relationship to the perpetrator, subjective impact and perceived
18 social support and it also asks for potentially traumatic and adverse events in adult life.

19 The present study evaluated the psychometric qualities of the German adaptation of the TEC,
20 which is already well established in Dutch. We assessed internal consistency, test-retest
21 reliability as well as criterion validity using the CTQ (Bernstein & Fink, 1998) and construct
22 validity using the Posttraumatic Stress Diagnostic Scale (PDS) (Foa, Cashman, Jaycox, & Perry,
23 1997), the Fragebogen für Dissoziative Symptome (FDS) (Spitzer, et al., 1998) the Somatoform

Dissociation Questionnaire (SDQ-20) (Nijenhuis, Spinhoven, VanDyck, VanderHart, & Vanderlinden, 1996) and the Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983).

Methods

Subjects

We included a total sample of 287 participants. The sample description is given in Table 1. A subgroup of participants (N = 67) recompleted the TEC three to five weeks following the first assessment in order to perform retest analyses.

Procedure

Subjects were recruited in outpatient or inpatient units at seven psychiatric services in Switzerland and Germany and from private practitioners for psychiatry and psychotherapy. In MediClin clinic in Offenburg, Germany, subjects were recruited consecutively, in all other places convenience samples were recruited. Diagnoses according to the ICD-10 Classification of Mental and Behavioural Disorders (World Health Organization (WHO), 1989) were assessed by patient's individual therapists using the ICD-10 Symptom Checklist for Mental Disorders (Janca, Ustun, van Drimmelen, Dittmann, & Isaac, 1994). Diagnoses not included in the ICD-10 Symptom Checklist (acute stress reaction, posttraumatic stress disorder and behavioural disorders) were assessed clinically according to the ICD-10 criteria. All subjects between 17 and 75 years were eligible for the study. Exclusion criteria, checked by the individual therapists, were a current diagnosis of an organic mental disorder or mental retardation, acute psychosis, severe substance abuse (dependence syndrome with active dependence or continuous use; acute intoxication; withdrawal state), affective disorder with psychotic symptoms, acute suicidal

tendency and insufficient command of the German language. The study protocol was approved by the local institutional review boards and all participants provided written informed consent.

Measures

The Traumatic Experiences Checklist (TEC) (Nijenhuis, et al., 2002) is a 29-item retrospective self-report scale. It covers child maltreatment in the following six areas: emotional abuse, emotional neglect, sexual harassment, sexual abuse, physical abuse and threat to life/bizarre punishment/intense pain. There are three items for each of these areas. The items within an area ask for the same event but with the offender belonging to different social settings (nuclear family, extended family and extrafamilial setting). An exception is the area *threat to life/bizarre punishment/intense pain* where each item asks for a different event disregarding the social setting. As pathogenic family structures have been suggested to be related to adult psychopathology (Fromuth, 1986; Nash, Husley, Sexton, Harralson, & Lambert, 1993) the TEC also includes family related items that go beyond the current definition of a traumatic event in the DSM-IV criterion A1. These are included in 11 additional items which do not belong to the above mentioned areas, covering parentification (being forced into adult roles and responsibilities), poverty, alcohol or drug abuse by family members, psychiatric illness of family members, death of a family member, divorce, war experiences, serious illness or injury and witnessing the traumatization of other people. Throughout the questionnaire, in case of occurrence an event is further evaluated on the following topics: the victim's age when it happened (0-6 years, 7-12 years, 13-18 years, above 18 years), how long it lasted (more or less than one year), the subjective impact of the event (none, slight, moderate, severe or extreme) and the support received (none, some or good support). *Developmental level composite scores* are built - within the six above mentioned areas only - for the age categories 0-6 years, 7-12

years and 13-18 years. In order to calculate them one point each is given for the presence of an event, for the duration of more than one year, for the offender being a member of the nuclear family, and for an impact rating of moderate or more. Thus each of the three *developmental level composite scores* within an area ranges from 0-4 with the exception of *threat to life/bizarre punishment/intense pain* where they only range from 0-3 because there is no evaluation of the relationship between victim and perpetrator. Within areas *developmental level composite scores* are summed up to build six *trauma area composite scores* ranging from 0-9 for threat to life/bizarre punishment/intense pain (3 x 0-3 points) and from 0-12 for the other five areas (3 x 0-4 points). *Trauma area composite scores* represent area severity. Across areas corresponding *developmental level composite scores* are added up to build three *developmental level total trauma composite scores* ranging from 0-23. In addition, the TEC has two different total scores. The *TEC total score* is the total event presence score, representing the number of potentially traumatic and adverse events experienced throughout the lifespan. The *TEC total trauma composite score* is the total severity score, representing severity of maltreatment in childhood. The *TEC total trauma composite score* can be calculated either by adding up the six *trauma area composite scores* or by summing the three *developmental level total trauma composite scores* and therefore ranges from 0-69, with higher scores representing more severe maltreatment. The *TEC total score* on the other hand ranges from 0-29 and is calculated by summing the number of events that were experienced. In contrast to the *TEC total trauma composite score*, the *TEC total score* also covers the 11 events which do not belong to one of the six areas. The six areas can also be referred to by the following three broader categories: *emotional trauma* (summing emotional abuse and emotional neglect), *sexual trauma* (summing sexual abuse and sexual harassment) and *bodily threat* (summing physical abuse and threat to

life/bizarre punishment/intense pain). *Trauma area presence scores* can also be built for these three categories by summing the number of events within each category. The original version of the TEC, applied in a Dutch sample of psychiatric patients, showed a test-retest reliability of $r = 0.91$ for the *TEC total score* and Cronbach's alpha coefficients for event presence of 0.86 for the total score, 0.78 for *emotional trauma*, 0.65 for *sexual trauma* and 0.77 for *physical trauma* (Nijenhuis, Van der Hart, & Kruger, 2002). The German version of the TEC was developed by a forward-backward translation process from and to both English and Dutch. Translations were carried out by native speakers of the target language with excellent knowledge of the source language.

The Childhood Trauma Questionnaire (CTQ) (Bernstein & Fink, 1998) is a 28-item retrospective measure of child abuse and neglect. For each event, the frequency of its occurrence is rated on a six-point Likert scale (1 = never true, 5 = very often true). Besides three denial items, which are not included in the total score, events covered belong to the categories emotional abuse, emotional neglect, physical abuse, physical neglect and sexual abuse with five items each. Each subscale score of the CTQ ranges from 5 to 25, the total score from 25 to 125. Higher scores indicate greater extent of traumatic experiences. The total score of the original version showed a test-retest reliability of $r = 0.86$ and Cronbach's alpha for internal consistency ranged from 0.66 to 0.92 for the five subscales; validity of the instrument was shown by a wide variety of measures (Bernstein & Fink, 1998; Bernstein, Ahluvalia, Pogge, & Handelsman, 1997). In this study, the German adaptation of the scale was used (Wulff, Schröder, Reinhold, & Driessen, 2006). Cronbach's alpha for the German adaptation was 0.82 for the total score and ranged from 0.75 to 0.82 for the five subscales; test-retest reliability was $r = 0.77$ for the total

score and ranged from $r = 0.58$ to $r = 0.81$ for the subscales; validity was also found to be good (Wulff, 2006).

The Posttraumatic Stress Diagnostic Scale (PDS) (Foa, et al., 1997) is a 49-item questionnaire designed to assess diagnosis and symptom severity of posttraumatic stress disorder (PTSD) according to DSM-IV criteria (American Psychiatric Association, 1994). It comprises four sections: 1) a trauma checklist; 2) questions specifically asking about DSM-IV A1 criteria for the most upsetting traumatic event (when it happened, if anyone was injured, perceived life threat, and whether the event resulted in helplessness or terror); 3) inquiry of the frequency of re-experiencing, avoidance, and arousal symptoms on a 4-point Likert scale from 0 (not at all or only once) to 3 (five or more times per week/nearly always); 4) assessment of impairment in important areas of functioning. The total severity score (ranging from 0 to 51) is based on the symptom frequency ratings and is obtained by adding up the 17 item scores of section 3. The PDS showed good internal consistency (Cronbach's $\alpha = 0.92$ for the total severity score, 0.78 for re-experiencing, 0.84 for avoidance and 0.84 for arousal), test-retest reliability ($r = 0.83$ for total severity, 0.77 for re-experiencing, 0.81 for avoidance and 0.85 for arousal) and validity (strong relationship with other measures of trauma-related psychopathology) (Foa, et al., 1997). As PTSD diagnoses were clinically established according to ICD-10 criteria the PDS was only used as a dimensional measure of posttraumatic stress symptoms. The German adaptation which was used in this study (Ehlers, Steil, Winter, & Foa, 1996) showed good internal consistency (Cronbach's $\alpha = 0.94$ for the total scale, 0.90 for re-experiencing/avoidance, 0.89 for numbing/hyperarousal and 0.88 for hypervigilance/exaggerated startle response) and associations with related measures as well (Griesel, Wessa, & Flor, 2006).

1 The Fragebogen für Dissoziative Symptome (FDS) (Freyberger, et al., 1998; Spitzer, et al.,
2 1998) is the German adaptation of the Dissociative Experiences Scale (Bernstein & Putnam,
3 1986). The DES is a 28-item self-rating instrument for the assessment of psychoform
4 dissociative symptoms with excellent psychometric properties (Bernstein & Putnam, 1986;
5 Carlson & Putnam, 1993). Symptoms covered in the DES are absorption, depersonalization,
6 derealisation, and amnesia. The FDS is expanded by 16 items, which cover pseudoneurological
7 conversion symptoms. Items are rated on an 11-point Likert scale that ranges from 0 (never) to
8 100 (always). The total score is built by the mean value of the 44 items and therefore ranges
9 from 0 to 100. Higher scores indicate higher levels of dissociative symptoms. The psychometric
10 properties of the FDS are comparable to those of the DES (test-retest reliability: $r = 0.88$ for the
11 FDS and $r = 0.86$ for the DES; Cronbach's alpha = 0.94 for the FDS and 0.91 for the DES; good
12 differentiation between diagnostic groups) (Spitzer, et al., 1998)

13 The Somatoform Dissociation Questionnaire (SDQ-20) (Nijenhuis, Spinhoven, van Dyck, van
14 der Hart, & Vanderlinden, 1998; Nijenhuis, et al., 1996) is a 20-item self-rating instrument to
15 assess somatoform dissociative symptoms. Items are rated on a 5-point Likert scale ranging
16 from 1 (not at all) to 5 (very strongly). The total score is built by adding up all items and ranges
17 from 20 to 100. Higher scores indicate higher levels of somatoform dissociation. The
18 psychometric properties are excellent (Loevinger scalability coefficient = 0.5, Cronbach's alpha
19 = 0.95, split half reliability = 0.93; high correlations with related measures and differentiation
20 between different dissociative diagnoses) (Nijenhuis, et al., 1996). The German version used in
21 this study showed excellent psychometric properties as well (Cronbach's alpha = 0.91, test-
22 retest reliability = 0.89; good differentiation between dissociative and non-dissociative
23 diagnostic groups and correlations with related measures) (Mueller-Pfeiffer, et al., 2010).

The Hospital Anxiety and Depression Scale (HADS) is a reliable 14-item self-report measure of anxiety and depression. Items are measured on a 4-point Likert scale ranging from 0 to 3. Anxiety and depression scores are built by 7 items each and range from 0 (no distress) to 21 (severe distress). The German adaptation by Herrmann et al. was used in this study (Herrmann, Buss, & Snaith, 1995). Both, the original version (Zigmond & Snaith, 1983) and the German adaptation (Herrmann, 1997) showed good and comparable psychometric properties (Cronbach's alpha 0.80 to 0.93 for the anxiety scale, 0.81 to 0.90 for the depression scale, retest reliability $r > 0.80$; substantial correlations with external criteria).

The ICD-10 Symptom Checklist for Mental Disorders (Hiller, Zaudig, & Mombour, 1995; Janca, et al., 1994) is an instrument to assess psychiatric symptoms and syndromes in the F0-F6 categories of the ICD-10 system: organic, including symptomatic, mental disorders (F00-F09); mental and behavioural disorders due to psychoactive substance use (F10-F19); schizophrenia, schizotypal and delusional disorders (F20-F29); mood disorders (F30-F39); neurotic, stress-related and somatoform disorders (F40-F49); behavioural syndromes associated with physiological disturbances and physical factors (F50-F59); disorders of adult personality and behaviour (F60). It comprises a listing of the symptom items specified by the ICD-10 research criteria that allows an accurate diagnostic evaluation by experienced clinicians (psychiatrists or psychotherapists) without need of special training. Preliminary testing revealed good interrater reliability of the instrument (overall kappa = 0.72) (Janca, Ustun, Early, & Sartorius, 1993).

Data Analyses

Pearson correlation coefficients were calculated to measure associations between TEC scores and scores of other instruments. Reliability of TEC scores were evaluated by the correlation between test and retest scores, and by investigating the internal consistency using Cronbach's

alpha (Cronbach, 1951). To investigate the agreement between test and retest we used the Bland-Altman approach. T-tests and χ^2 -tests were used to examine group differences for dimensional and categorical variables, respectively. Analyses of variance (ANOVA) were used to analyse differences of TEC total scores between diagnostic groups. Cohen's d was used as effect size for t-tests, Cramer's V as effect size for χ^2 -tests and R^2 as effect size for ANOVA. Missing items were replaced by means for FDS (4 x 1 item = 0.03%) and HADS (3 x 1 item = 0.07%). Missing items in the PDS (2 x 1 item = 0.04%), SDQ-20 (5 x 1 item = 0.09%), CTQ (1 x 3 items, 4 x 2 items, 2 x 1 item = 0.16%) and TEC (presence: 1 x 2 items, 5 x 1 item = 0.08%; severity: 3 x 6 subitems, 2 x 4 subitems, 4 x 3 subitems, 6 x 2 subitems, 20 x 1 subitem = 0.62%) were replaced by 0. Missing scores (all items missing: 5 for PDS, 4 for FDS and 1 for CTQ) were excluded pairwise. Statistical analyses were performed using SPSS 16.0.1 (SPSS Inc., Chicago, IL, USA).

Results

Self-reported adversities/trauma and sample characteristics

Descriptive data of all self-report measures and test statistics on gender differences are displayed in Table 2. In our sample, measured by the TEC, childhood and adolescent adversities/trauma (age 0-18 years) were more prevalent in women than men (87.4% vs. 67.7%, $\chi^2 = 13.78$, $df = 1$, $p < 0.001$). The prevalence of adversities/trauma during adult life (age >18 years) was not significantly different between men and women (73.4% vs. 63.1%, $\chi^2 = 2.62$, $df = 1$, $p = 0.11$). More women than men reported emotional neglect (77.5% vs. 50.8%; $\chi^2 = 17.57$, $df = 1$, $p < 0.001$), emotional abuse (67.6% vs. 47.7%, $\chi^2 = 8.53$, $df = 1$, $p = 0.003$), sexual harassment (57.2% vs. 21.5%, $\chi^2 = 25.60$, $df = 1$, $p < 0.001$) and sexual abuse (48.6% vs. 9.2%, $\chi^2 = 32.63$, $df = 1$, $p < 0.001$). No gender differences were found for the prevalence

of physical abuse (women: 52.7%, men: 46.2%, $\chi^2 = 0.86$, $df = 1$, $p = 0.35$) and threat to life/bizarre punishment/intense pain (women: 54.1%, men: 50.8%, $\chi^2 = 0.22$, $df = 1$, $p = 0.64$).

Main diagnosis showed a significant effect on TEC total scores ($F(13, 273) = 5.02$, $p < 0.001$, $R^2 = 0.19$ for total event presence; $F(13, 273) = 4.10$, $p < 0.001$, $R^2 = 0.16$ for total trauma severity). Post hoc deviation contrasts for total event presence showed that the groups *acute stress reaction and post-traumatic stress disorder* ($p < 0.001$) and *dissociative disorders* ($p < 0.001$) had the highest TEC total scores while the group *schizophrenia, schizotypal and delusional disorders* ($p = 0.05$) had the lowest scores. Post hoc deviation contrasts for total trauma severity showed that the group *dissociative disorders* ($p = 0.02$) had the highest TEC total trauma composite scores. Mean TEC total scores per diagnostic group are given in Table 1.

The convenience sample ($N = 196$) did not differ from the group of consecutively enrolled subjects ($N = 91$) regarding TEC total scores (convenience: $M = 7.68$, $SD = 5.11$; consecutive: $M = 8.47$, $SD = 5.68$; $t = -1.18$, $df = 285$, $p = 0.24$, Cohens's $d = 0.15$) and TEC total trauma composite scores (convenience: $M = 19.28$, $SD = 17.43$; consecutive: $M = 20.71$, $SD = 17.94$; $t = -0.65$, $df = 285$, $p = 0.52$, Cohens's $d = 0.08$) nor did they differ in mean years of age (convenience: $M = 37.3$, $SD = 14.3$; consecutive: $M = 37.6$, $SD = 11.8$; $t = -0.18$, $df = 210.2$, $p = 0.86$, Cohen's $d = 0.02$) or level of education ($\chi^2 = 0.68$, $df = 2$, $p = 0.71$, Cramer's $V = 0.05$).

Reliability of TEC scores

For the first administration of the TEC, Cronbach's alpha coefficients for event presence were 0.85 for the total score (TEC total score), 0.74 for emotional trauma, 0.66 for physical trauma and 0.73 for sexual trauma. For the retest, Cronbach's alpha coefficients for event presence were

0.86 for the total score, 0.77 for emotional trauma, 0.69 for physical trauma, and for sexual trauma 0.70.

For the first administration of the TEC, Cronbach's alpha coefficients for trauma severity were 0.91 for the total score (*TEC total trauma composite score*), 0.89 for emotional trauma, 0.81 for physical trauma and 0.84 for sexual trauma. For the retest, Cronbach's alpha coefficients for trauma severity were 0.94 for the total score, 0.93 for emotional trauma, 0.87 for physical trauma and 0.87 for sexual trauma.

Pearson correlation coefficients of the test-retest analyses are given in Table 3. The Bland-Altman analysis for the event presence total score (*TEC total score*) showed a mean difference between first and second assessment of 0.10 (SD = 1.87). The 95% confidence interval for the mean difference was -0.35 to 0.56. The upper limit of agreement was 3.77, the lower limit -3.56. Thus, considering the mean difference as 0, 95% of the tests scores of two assessments would be expected to vary in the range of +/-3.67. For the trauma severity total score (*TEC total trauma composite score*) a mean difference between first and second assessment of 0.45 (SD = 5.60) was found. The 95% confidence interval for the mean difference was -0.92 to 1.81. The upper limit of agreement was 11.43, the lower limit -10.53. Considering the mean difference as 0, 95% of the tests scores of two assessments would be expected to vary in the range of +/-10.98. Figure 1 shows differences against means for the two TEC total scores.

TEC criterion validity

TEC total scores ranged from 0 to 22, including 10 subjects (3.5%) with a score of 0. *TEC total trauma composite scores* ranged from 0 to 69, including 49 subjects (17.1%) with a score of 0. *TEC total scores* and *TEC total trauma composite scores* were independent from age ($r = 0.05$, $p = 0.39$ and $r = 0.06$, $p = 0.35$, respectively). CTQ total scores ranged from 25 to 124,

including 13 subjects (4.5%) with the minimal score of 25 (25 = no reported childhood adversities/trauma).

The correlations between CTQ total scores and *TEC total scores* as well as between CTQ total scores and *TEC total trauma composite scores* were significant and strong. Scores on CTQ subscales correlated highly and significantly with the corresponding *TEC trauma area composite scores*. Correlation coefficients are given in Table 3.

TEC construct validity

PDS symptom severity scores ranged from 0 to 49, including 7 subjects (2.4%) with a score of 0. SDQ-20 scores ranged from 20 to 79, including 42 subjects (14.6%) with the minimal score of 20 (20 = no symptoms). FDS scores ranged from 0 to 66.6, including 1 subject (0.3%) with a score of 0. HADS depression scores ranged from 0 to 20, including 3 subjects (1.0%) with a score of 0. HADS anxiety scores ranged from 0 to 21, including 1 subject (0.3%) with a score of 0. Pearson correlation coefficients between PDS, SDQ-20, FDS and HADS symptom severity scores and TEC scores as well as between TEC scores themselves are given in Table 3.

Discussion

The aim of the present study was to determine the psychometric characteristics of the German adaptation of the TEC, a self-report scale that assesses potentially traumatic and adverse experiences in childhood and adulthood. Our findings indicate good reliability and validity of this instrument and results are similar to those reported for the original version (Nijenhuis, et al., 2002). Test-retest reliability and internal consistency for the *TEC total score* as well as for the *TEC total trauma composite score* were high. The Bland-Altman approach showed that for both TEC total scores 0 was included in the confidence interval for the mean difference between test and retest, indicating that results were not changing from the first to the second assessment.

Despite this, it should be taken into account that individual results may vary between test and retest in the range of ± 3.7 presence points out of 29 possible and ± 11 severity points out of 69 possible. Criterion-related validity was supported by high and strongly significant correlations between CTQ and TEC total scores and between corresponding subscales of these two measures.

The high association we found between severity of childhood adversities/trauma and posttraumatic symptoms are in agreement with earlier findings of childhood abuse being associated with PTSD (Bremner, Vermetten, & Mazure, 2000; Dubner & Motta, 1999; Widom, 1999). The associations between TEC total scores and FDS as well as SDQ-20 scores in our data support findings that dissociation symptoms could be related to childhood trauma (Dalenberg & Palesh, 2004; Plattner, et al., 2003). We also found more anxiety and depression in individuals who showed higher TEC total scores. This is also in line with previous work (Chapman, et al., 2004; McCauley, et al., 1997). These findings of higher TEC total scores being associated with more severe psychopathology suggest a dose-response relationship between childhood adversities and adult psychopathology as it is proposed in previous studies (Briere, et al., 2008; Chapman, et al., 2004; Dube, et al., 2001; Edwards, et al., 2003; Teicher, et al., 2006). The fact that TEC total scores showed higher correlations with symptoms of PTSD and dissociation than with symptoms of anxiety and depression further supports the construct validity of the TEC as PTSD and dissociation are more closely related to the construct of trauma than anxiety and depression. Further support for the construct validity of the TEC came from the analysis of different diagnostic groups. The two diagnostic groups most closely related to trauma, dissociative disorders and acute and post-traumatic stress disorders, showed the highest total event presence scores. Dissociative disorders showed the highest total trauma severity

1 scores. Schizophrenia, schizotypal and delusional disorders on the other hand showed the lowest
2 total event presence scores. Correlations among TEC scores show that area composite scores are
3 only moderately related to each other.

4 Our results that women showed higher rates of sexual abuse and sexual harassment than men
5 are in accordance with findings reported in North America (Gorey & Leslie, 1997) and many
6 other countries (Finkelhor, 1994). Also, more women than men reported emotional neglect,
7 which is consistent with results obtained with the original version of the TEC in a Dutch sample
8 (Nijenhuis, et al., 2002). In our sample we found no significant gender difference for the
9 prevalence of physical abuse. Evidence regarding gender differences in prevalence rates of
10 childhood physical abuse is mixed in the literature. According to a review by Read et al. (Read,
11 et al., 2005) among psychiatric patients the weighted averages of reported childhood physical
12 abuse for males and females across studies seem to be quite similar.

13 A limitation of the present study is the lack of consecutive enrolment of participants, with the
14 exception of one recruitment location (Baden-Wurttemberg, Germany). However, subjects in
15 the consecutively recruited sample did not differ from the convenience sample in
16 sociodemographics or mean TEC total scores, which reduces the probability of a systematic
17 recruitment bias. Though, because only subjects that were evaluated by their therapists as being
18 able to cope with assessing their trauma history were considered for study participation, a
19 systematic bias in sample selection cannot be ruled out. A second methodological flaw is that
20 we had no corroborating data for an external validation of the reported traumatic experiences.
21 Therefore we cannot rule out the influence of recall biases, caused for example by memory
22 deficits due to current psychopathology or mood, which are common problems when self-rating
23 scales are used (Brewin, Andrews, & Gotlib, 1993).

1 Also, we do not know if gender differences are real or only reflect differences in reporting
2 abuse. Underreporting of traumatic childhood experiences, particularly by men, is a common
3 phenomenon that has been found in several studies even when asking for well defined events
4 (Brewin, et al., 1993; Fergusson, Horwood, & Woodward, 2000; Spataro, Moss, & Wells, 2001;
5 Widom & Morris, 1997; Widom & Shepard, 1996). Moreover, the high female to male ratio in
6 the sample limits the results relating to gender differences. Further, the assessment of the
7 construct validity is limited because our main measure was another adversities/trauma
8 questionnaire which was filled in at the same time point as the TEC and because we had no
9 measures of unrelated constructs at hand to investigate divergent validity. Finally, our results are
10 limited to psychiatric patients as there was no healthy control group included.

11 In summary, our results suggest that the German version of the TEC is a useful measure of
12 childhood adverse and traumatic experiences in psychiatric patients. Psychometric properties are
13 excellent. In future studies the TEC might help to uncover more detailed aspects of adverse and
14 traumatic experiences and their influence on outcomes.

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Table 1

Sample Description and TEC Total Scores by Diagnostic Groups.

	Range	<i>N</i>	%	<i>M</i>	<i>SD</i>		
Age	17-73	287	100	37.1	13.4		
Gender							
Female		222	77.4				
Male		65	22.6				
Level of education							
No completed education or obligatory school (9 years)		66	23.0				
Apprenticeship, full-time vocational school or higher education entrance qualification		146	50.9				
College or university		71	24.7				
				TEC total event presence score		TEC total trauma severity score	
			<i>N</i>	%	<i>M</i>	<i>SD</i>	
Main diagnosis							
Substance abuse and dependency		9	3.1	7.44	5.94	16.78	15.86
Schizophrenia, schizotypal and delusional disorders		6	2.1	3.33	3.39	8.50	9.99
Bipolar disorders		4	1.4	5.50	3.70	11.00	7.39
Depressive disorders		85	29.6	7.04	4.36	16.96	14.88
Neurotic disorders		20	7.0	7.00	4.67	15.45	14.50
Acute stress reaction and post-traumatic stress disorder		63	22.0	8.70	5.89	20.98	19.24
Adjustment disorder and other reaction to severe stress		20	7.0	6.25	4.70	15.75	17.22
Dissociative disorders		33	11.5	13.48	5.08	37.30	18.91
Somatoform disorders		10	3.5	7.00	4.03	18.10	14.68
Anorexia nervosa		9	3.1	4.22	2.95	11.78	10.76
Bulimia nervosa		9	3.1	6.56	4.53	15.00	16.20
Behavioural disorders		5	1.7	5.00	2.55	8.60	5.55
Personality disorders		10	3.5	8.80	4.64	23.00	15.76
No F-diagnosis		4	1.4	7.75	5.74	25.75	20.76

Note. Four subjects did not state their level of education.

Table 2

Self-Reported Symptom Scores and MANOVA Results on Gender Differences

Scale	Men (N = 65)		Women (N= 222)		<i>t</i>	<i>df</i>	<i>p</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Traumatic Experiences Checklist (TEC)								
Total score (total event presence)	5.49	4.33	8.64	5.35	-4.87	126.6	0.000	*
Total trauma composite score (total trauma severity)	10.91	12.99	22.32	17.92	-5.67	142.4	0.000	*
Trauma area composite score emotional abuse	3.15	4.09	5.32	4.77	-3.61	119.4	0.000	*
Trauma area composite score emotional neglect	3.34	4.37	6.87	4.95	-5.56	116.4	0.000	*
Trauma area composite score physical abuse	2.40	3.62	3.45	4.42	-1.95	125.0	0.05	
Trauma area composite score threat to life/BP/IP	0.78	1.71	1.88	2.99	-3.76	186.6	0.000	*
Trauma area composite score sexual abuse	0.35	1.33	2.39	3.66	-4.40	161.8	0.000	*
Trauma area composite score sexual harassment	0.88	2.15	2.41	3.32	-6.88	273.5	0.000	*
Developmental level composite score 0-6 years	1.86	3.75	5.05	6.07	-5.17	171.0	0.000	*
Developmental level composite score 7-12 years	4.46	5.61	8.74	6.83	-5.14	124.8	0.000	*
Developmental level composite score 13-18 years	4.58	5.70	8.52	6.74	-4.69	121.2	0.000	*
Childhood Trauma Questionnaire (CTQ)								
Total score	43.45	18.01	57.70	22.81	-5.23	127.0	0.000	*
Subscale emotional abuse	9.55	5.02	13.92	6.26	-5.79	124.9	0.000	*
Subscale physical abuse	7.31	3.50	8.50	5.09	-2.13	147.7	0.03	
Subscale sexual abuse	6.70	4.09	10.89	7.25	-5.93	185.6	0.000	*
Subscale emotional neglect	11.78	5.77	14.90	6.08	-3.65	284	0.000	*
Subscale physical neglect	8.11	3.57	9.49	4.11	-2.63	115.4	0.010	
Posttraumatic Stress Diagnostic Scale (PDS)								
Total score	21.90	12.93	24.21	12.78	-1.26	280	0.21	
Fragebogen für Dissoziative Symptome (FDS)								
Total score	9.84	9.36	16.03	14.51	-4.04	155.8	0.000	*
Somatoform Dissociation Questionnaire (SDQ-20)								
Total score	27.03	7.96	34.15	14.12	-5.20	189.7	0.000	*
Hospital Anxiety and Depression Scale (HADS)								
Anxiety total score	9.68	4.21	11.23	4.66	-2.41	285	0.02	*
Depression total score	9.35	5.19	9.25	4.67	0.15	285	0.88	

Note. * Significant on a Bonferroni corrected level of $p \leq 0.002$ for 22 comparisons. BP/IP = bizarre punishment/intense pain.

Table 3

Pearson Correlation Coefficients Representing Criterion Validity, Construct Validity and Reliability of the TEC ($N = 287$)

Scale	TEC total event presence	TEC total trauma severity	TEC emotional abuse	TEC emotional neglect	TEC physical abuse	TEC threat to life/BP/IP	TEC sexual abuse	TEC sexual harassment
CTQ total score	0.83	0.82	0.66	0.63	0.59	0.52	0.64	0.65
CTQ emotional abuse	0.76	0.78	0.73	0.68	0.58	0.42	0.46	0.53
CTQ emotional neglect	0.59	0.60	0.51	0.61	0.36	0.35	0.37	0.42
CTQ physical abuse	0.67	0.64	0.52	0.40	0.67	0.43	0.41	0.43
CTQ physical neglect	0.63	0.58	0.49	0.42	0.39	0.36	0.45	0.51
CTQ sexual abuse	0.68	0.65	0.39	0.38	0.38	0.48	0.79	0.66
HADS anxiety	0.42	0.40	0.32	0.37	0.27	0.22	0.28	0.27
HADS depression	0.28	0.25	0.19	0.25	0.14	0.17	0.17	0.20
PDS total score	0.50	0.45	0.34	0.36	0.29	0.34	0.39	0.35
FDS total score	0.63	0.55	0.43	0.39	0.34	0.41	0.45	0.53
SDQ-20 total score	0.54	0.48	0.38	0.38	0.29	0.35	0.32	0.43
TEC total event presence		0.83	0.67	0.66	0.59	0.58	0.56	0.65
TEC total trauma severity			0.85	0.80	0.75	0.66	0.68	0.69
TEC emotional abuse				0.71	0.63	0.44	0.40	0.42
TEC emotional neglect					0.49	0.35	0.37	0.42
TEC physical abuse						0.45	0.34	0.36
TEC threat to life/BP/IP							0.50	0.46
TEC sexual abuse								0.62
TEC test-retest	Total score		Emotional trauma		Physical trauma		Sexual trauma	
Event presence	0.94		0.93		0.77		0.85	
Trauma severity	0.95		0.85		0.89		0.94	

Note. TEC = Traumatic Experiences Checklist, CTQ = Childhood Trauma Questionnaire, PDS = Posttraumatic Stress Diagnostic Scale, FDS = Fragebogen für Dissoziative Symptome, SDQ-20 = Somatoform Dissociation Questionnaire, HADS = Hospital Anxiety and Depression Scale. Correlations between corresponding subscales between CTQ and TEC are printed in bold. BP/IP = bizarre punishment/intense pain. TEC total event presence = *TEC total score*; TEC total severity = *TEC total trauma composite score*; TEC emotional abuse, TEC emotional neglect, TEC physical abuse, TEC threat to life/BP/IP, TEC sexual abuse and TEC sexual harassment = *Trauma area composite scores* (= area severity). All test-retest correlations are significant at $p \leq 0.001$, all other correlations are significant at $p < 0.05$.

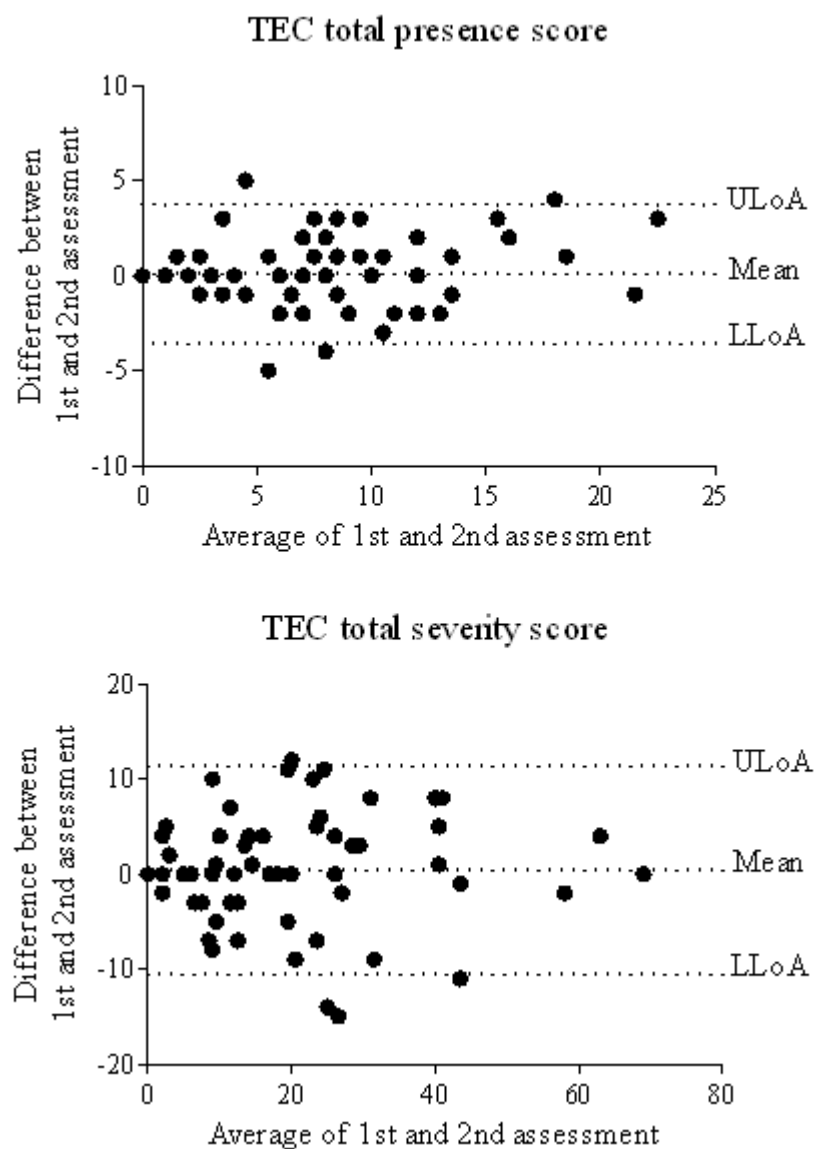


Figure 1. Differences against means for TEC total scores. ULoA = upper limit of agreement, LLoA = lower limit of agreement.